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ABSTRACT

This brief article describes a session with a client utilizing a device known as the Electromyometer (EMG) and biofeedback processes. The author explains how his procedure encompasses aspects of Dynamic Psychotherapy, which is a therapeutic approach utilizing galvanic skin resistance in psychotherapy, and EMG which has been primarily used on neuromuscular retraining by the detection of infinitesimal neuromuscular potential, and bringing these potentials to the awareness of the patient. (YRJ)

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Continuous Utilization of Biofeedback in Psychotherapy

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by

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Research involving biofeedback processes (especially galvanic skin resistance and electrodermal potential) has been available for a number of years. More recently biofeedback (utilizing the electromyometer) has been effectively used to treat persons with psychosomatic disorders, i.e., migraine headaches, ulcers, gastro-intestinal upsets, high blood pressure, skin disorders, and some phobias.

Dr. Marjorie Toomim, a clinical psychologist at the Biofeedback Institute in Los Angeles, California, recently evolved a therapeutic approach utilizing galvanic skin resistance (GSR) in psychotherapy. She terms this process Dynamic Psychotherapy. The writer utilizes aspects of her therapeutic approach but expands it somewhat by incorporating the use of the Electromyometer (utilized as a measure of muscle tension and body rigidity). Though the Electromyometer (EMG) has been primarily used in neuromuscular retraining by the detection of infinitesimal neuromuscular potentials and bringing these potentials to the awareness of the patient, I have found that clients experiencing depression, anxiety and impaired decision making states, frequently live in a continuous state of high muscular tension. Thus, the phrase "being uptight" has some very definite literal meaning. I have further observed that people who are muscularly "uptight" are frequently those who lack contact with their feelings. This is evident by the extremely low reading obtained on the GSR instrument, i.e., two to three micromhos as opposed to the more usual seven to ten micromhos.

THERAPEUTIC PROCESS

At the beginning of the session the client is informed of the basic functioning of the EMG, i.e., when electrodes are placed on the right and left forearm she/he will be able to see the meter reading as well as hear variation in sound frequencies which are indicators of varying degrees of muscle tension. At the same time two GSR electrodes are attached to the palm of one hand. It is explained that this electronic device measures the activity of the autonomic nervous system of the body by responding to changes in palmer skin conductance. The electrodes pick up the electrical resistance in accordance with the activity of the sweat glands which are activated only by the sympathetic branch of the autonomic nervous system--the same system which regulates dilation of the pupils, heart rate, adrenalin supply, and other hormone secretions. Sympathetic nervous system functioning is affected by emotional states, its activity increases in states of arousal, anger, or fear. Conversely, GSR activity is diminished when the body is relaxed and in a mentally calm state; thus, changes in palmer skin conductance are seen as a reflection of the individual's emotionally sensitive areas and are used to facilitate greater awareness of emotionally charged areas which may be painful (arousing) and difficult for the person to share with the therapist.

After the client has been acclimated to the portable instruments and wires, muscular activity and autonomic nervous system activity is fed back to the client by an audible variation of sound and/or meter reading of either instrument. If muscular body tension remains high this suggests that the client may be diverting many of the upset feelings into muscular rigidity with little awareness of being emotionally upset. As the client learns to relax, using relaxation techniques with biofeedback (EMG), there is typically an increase in responsivity of the GSR. While remaining relaxed there will be a higher degree of fluctuation of autonomic nervous system functioning (GSR). Thus, through using both instruments together the client is provided a higher degree of physiological feedback which has implications for psychological functioning. (Actually

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I don't like the label of psychological or physiological as I see them so tightly related that it becomes extremely difficult to separate except in the grossest sense.)

After the client is able to muscularly relax her/his body, the GSR becomes the primary unit of feedback to the client and therapist in the therapeutic process. As the client talks the sound on the unit is turned to a low but audible level. When emotionally charged areas (verbalized or non-verbalized) are approached, the sound on the GSR unit increases suggesting a higher autonomic nervous system level functioning; this provides the client and therapist with continuous cues as to significant areas that need to be examined in therapy and eliminates many client defenses. Usually this means that the client will require fewer therapy sessions in order to achieve desired goals.

Biofeedback (EMG & GSR) when used in this fashion becomes simply another tool to facilitate and expedite the therapeutic process.